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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,685	08/25/2003	Thomas J. Kelly	08350.3304-04	9970

58982 7590 02/06/2007	EXAMINER	
CATERPILLAR/FINNEGAN, HENDERSON, L.L.P.	BROADHEAD, BRIAN J	
901 New York Avenue, NW	ART UNIT	PAPER NUMBER
WASHINGTON, DC 20001-4413	3661	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

		Application No.	Applicant(s)
Office Action Summary		10/646,685	KELLY ET AL.
		Examiner	Art Unit	
		Brian J. Broadhead	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 October 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-6,8-25 and 27-38</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-6,8-25 and 27-38</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 July 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>10-30-06</u>.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claims 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims include limitations that a first work machine includes a first gateway and a first destination module and that when the first gateway can process the first message, it performs functions similar to those of the first destination module using data included in the first message. There is no support for the first module being present and the first gateway intercepting the first message. The specification consistently discloses the invention as replacing the modules and it never discloses that the proxy logic and destination modules that the proxy logic represents are present at the same time. This also applies to the second proxy logic and the second destination module.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-6, 8, 9, 10, 11, 12-25, 27-29, and 32-35 are rejected under 35 U.S.C.

103(a) as being unpatentable over Pruzan et al., 6728603, in view of Bray et al.,

6865460.

5.   As per claims 1, 2, 3, 4, 8, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 28, 29,

32, 33, 34, and 35, Pruzan et al. disclose detecting a first message sent by a source

module on a first data link, wherein the first message is directed to a destination module

and includes an address identifier corresponding to the destination module lines 36-34,

on column 3, lines 1-4, on column 7, lines 16-20, on column 8, and lines 24-27 on

column 1; retrieving the first message and extracting the destination address identifier

from the message on line 48, on column 6, through line 5, on column 7, and on line 52,

on column 7 through line 26, on column 8; routing, based on the destination address

and an address map including proxy logic identifiers, the first message to an element

that performs functions associated with the destination module on lines 54-55, on

column 7, and lines 10-23, on column 9; detecting a first message sent by a source

module on a proprietary data link on lines 42-43, on column 4; providing the first

message from the proxy logic element to a second module over a second data link

interfaced by the proxy logic element on lines 5-10, on column 7; receiving a second

message responsive to the first message from the second module via the second data

link and routing, using an address map, the second message to the first module over

the first data on lines 11-17, on column 14, these limitations are functional language that

Pruzan et al. is capable of performing; and that the gateway can perform the functions

of a node (module) on lines 10-15, on column 9; a source module for broadcasting a

first message over a first data link that uses a first protocol, wherein the first message is

intended for a destination module and includes a destination address identifier

associated with the destination module on line 36-40, on column 3, lines 1-4, on column

7, lines 16-20, on column 8, and lines 24-27, on column 1; a gateway coupled to the first

data link configures to monitor the first data link for messages on line 48, on column 6,

through line 5 on column 7, route the intercepted message based on information in an

address map on lines 54-55, on column 7, and lines 10-23, on column 9; detecting a

first message sent by a source module on a proprietary data link on lines 42-43, on

column 4; providing the first message or information responsive to the first message

from the proxy logic element to a second module over a second data link(32) interfaced

by the proxy logic element on lines 5-10, on column 7, and lines 8-26, on column 8;

receiving a second message responsive to the first message from the second module

via the second data link and routing, using an address map, the second message to the

first module over the first data on lines 11-17, on column 14, these limitations are

functional language that Pruzan et al. is capable of performing. The address map is

inherent in Pruzan et al. because they disclose the that protocol converter examines

any messages it receives to determine what address it is directed towards and then

transmits the message to the appropriate bus or to the wireless device. Since the

protocol converter analyzes the message and then directs the message to the correct

place it must be relying on an address map. There must be some stored information in

the protocol converter that keeps track of addresses associated with the different

busses and the wireless device.

6.   Pruzan does not disclose that the element that performs functions associated

with the destination module is a proxy logic element; intercepting the first message from

the first data link based on a determination that the destination address corresponds to

proxy logic included in the gateway and routing the message to the proxy logic that

performs functions associated with the destination module based on data included in

the intercepted module on lines 23-28, on column 4.

7.   Bray et al. teach the element that performs functions associated with the

destination module is a proxy logic element, intercepting the first message from the first

data link based on a determination that the destination address corresponds to proxy

logic included in the gateway and routing the message to the proxy logic that performs

functions associated with the destination module based on data included in the

intercepted module on lines 23-28, on column 4.

8.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the software objects of Bray et al. in the invention of Pruzan

et al. because such modification allows simpler hardware that is easily upgradeable as

stated on lines 58, on column 8, through line 15, on column 9, of Bray et al.

9.   As per claims 5, 6, Pruzan et al. disclose detecting that the first data link is

incompatible with the second data link and translating the second message into a

comparable message consistent with the first data link on lines 39-43, on column 6;

generating, by the proxy logic element, a second message that is responsive to the first

message and routing the second message to the source module via the first data link on lines 15-20, on column 1, this limitation is functional language that Pruzan is capable of performing.

10.   As per claim 9, Pruzan et al. disclose the source nodes include at least one of either an on-board module and an off-board module (item 22).

11.   As per claim 18, 25, Pruzan et al. disclose translating the second message into a comparable message consistent with the first data link on lines 39-43 and 48-60, on column 6.

12.   As per claim 17, 24 Pruzan et al. disclose the second data link is a non-propriety standard data link including one of J1930, CAN, MODBUS, serial standard data link, and Ethernet on lines on lines 42-43, on column 4. The second link can also be viewed as one of the other protocols on bus 24 of Pruzan et al.

13.   As per claims 27, Pruzan et al. discloses the limitations above; a master controller remotely located with respect to the work machine and couple to the work machine via a wireless data link (40); the gateway routes the intercepted message, based on information in an address map, to proxy logic located in the gateway that performs function associated with the master controller on lines 8-26, on column 8, and lines 22-30, on column 9.

14.   Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pruzan et al., 6728603, in view of Bray et al., 6865460 as applied to claims 1-6, 8, 9, 10, 11, 12-25, 27-29, and 32-35 above, and further in view of Elson et al., 2003/0014521.

15.   Pruzan et al. and Bray et al. disclose the limitations as set forth above. They do

not disclose retrieving by the gateway a proxy logic element from a remote location.

Elson et al. teach retrieving by the gateway a proxy logic element from a remote

location in paragraph 96. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the retrieving of Elson et al. in the invention of

Pruzan et al. and Bray et al. because such modification would enable the gateway to

respond to evolving customer requirements as stated in paragraph 31 of Elson et al.

16.   Claims 30, 31, 36 and 37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pruzan et al., 6728603, in view of Klemba et al.,

US2004/0225740A1.

17.   Pruzan et al. disclose the limitations as set forth above. They do not disclose

routing the message from a first gateway in a first machine to a second gateway in a

second machine when the first gateway is unable to process the message; the second

gateway routing the message from the second gateway when the second gateway is

unable to process the message. Klemba et al. teaches routing the message from a first

gateway in a first machine to a second gateway in a second machine when the first

gateway is unable to process the message and the second gateway routing the

message from the second gateway when the second gateway is unable to process the

message in paragraph 73. Klemba et al. teaches an adhoc network between vehicles

that rely on routing table. If the message isn't addressed to a service point (first

gateway) it gets passed along to other service points (second gateway) since the

message can't be processed unless it is at the correct service point. It would have been

obvious to one of ordinary skill in the art at the time the invention was made to use the

network of Klemba et al. with the invention of Pruzan et al. because such modification

would expand the range of the network as disclosed by Klemba et al.

Response to Arguments

18.   Applicant's arguments filed 4-4-06 have been fully considered but they are not

persuasive. The argument that an address map is not inherent in Pruzan is not

convincing.   Pruzan et al. repeatedly discloses analyzing messages to determine their

destination addresses in order to decide where to send the messages. This can be

seen on lines 6-39, on column 4, line 50, on column 6, though line 10, on column 7,

lines 57-67, on column 7, lines 8-26, on column 8, lines 1-4, on column 9, lines57-67, on

column 11, lines 64-67, on column 12. The applicant's contention that other routing

schemes could be used is not convincing since Pruzan clearly does not broadcast all

message and the scheme suggested that higher address go one way while lower

addresses go the other way would still be considered a map since there would have to

be information in the device doing the routing describing the cutoff between the higher

and lower address ranges. The suggestion about the routing being encoded into the

destination address itself is not clear and is not applicable in Pruzan et al.

19.   As per the argument that Pruzan et al. does not disclose "routing based on an

address map and the information included in the message, the message from the first

program logic to the second program logic"; Pruzan et al. discloses the any of the nodes

(or controllers) can be emulated by the protocol converter and their addresses seized.

This is not limited to a single controller. Pruzan also discloses on lines 21-24, on

column 1, lines 46-49, on column 3, lines 16-18, on column 4(this section includes content of message and address), lines 14-16 and 23-26, on column 9, that these controllers exchange data with each other regarding their and or the vehicle status. It would be quiet clear to one of ordinary skill in the art that this communication would have to continue even if two controllers were being emulated.

20.   As per claim 38, the suggestion that Elson does not teach retrieving and instead bundles are provided is not convincing. Elson discloses in figure 29 a "SW upgrade (swup) service" that handles updates. This would constitute a retrieval process. Besides, arguendo, if Elson did not disclose retrieval it would be and obvious modification to one of ordinary skill in the art. For instance, Elson discloses in paragraph 193, the downloading of applets to a device. This provides individual users with more control and flexibility over a centrally managed enterprise system.

Conclusion

21.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any
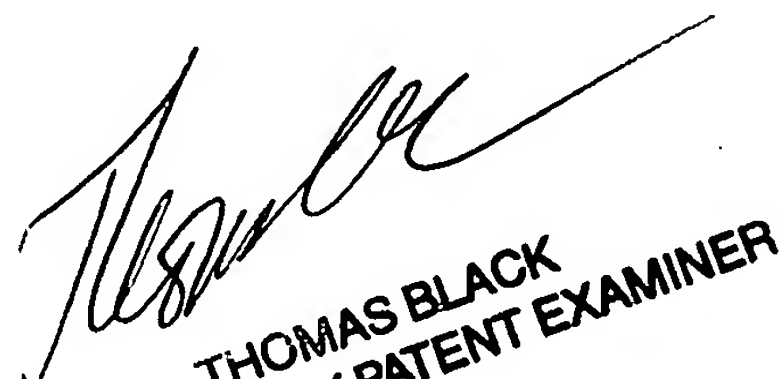
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Brian J. Broadhead whose telephone number is 571-

272-6957. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

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BJB

THOMAS BLACK
SUPERVISORY PATENT EXAMINER